B-7

THE CITY OF NEW YORK
DEPARTMENT OF BUILDINGS

Technical Report: Periodic Inspection of Exterior Walls and Appurtenances

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Internal Use
Cycle Number

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1 Filing Status

	Initial Filing			Amended Filing	
	First Cycle		Subsequent Cycle	Initial Filing Date 1/15/91	Application Number

2 Location

Borough	Manhattan	Block	175	Lot(s) 10	BIN
House No(s).	271	Street Name	Church Street		
Special Place Name					Floor(s)
	A.K.A. 90-94	House No(s).	90-94	Street Name	Franklin

3 Applicant

Last Name	Cohan	First Name	Stephen	M.I.	L.
Business Name	Stephen L. Cohan & Associates, Architects			Business Phone	(212) 683-9405
Address	15 East 26th Street	City	New York	State	NY ZIP 10010
	P.E. X R.A.			Lic. No.	11222

4 Owner

Last Name	271 Church St. Association	First Name	Mr. P. Cento	M.I.	Title Vice Pres.
Business Name	Helmsley-Noyes Co., Inc.			Business Phone	(212) 693-4400
Address	22 Courtlandt Street	City	New York	State	NY ZIP 10007

5 Building Characteristics

Number of Stories	18 + roof bulkheads	Height	198	feet	Exterior Wall Type Brick Solid

6 Prior Status

X	Ongoing Maintenance Program	Precautionary Conditions	Unsafe Conditions
X	Conformed with Code Requirements	Current Completion of Work Estimated to be %	Current Completion of Work Estimated to be

7 Current Field Report

X	Critical Examination		Ongoing Maintenance Program
X	All observed conditions conform to Code Requirements and applicable Rules, Regulations and Directives.		All observed conditions conform to Code Requirements and applicable Rules, Regulations and Directives.
	All observed conditions conform to Code Requirements and applicable Rules, Regulations and Directives except:		All observed conditions conform to Code Requirements and applicable Rules, Regulations and Directives except for ongoing remedial work described below:
	The precautionary work described in the report.		
	The unsafe conditions described in the report and below:		

8 Statements and Signatures

I hereby state that the owner has authorized me to make this application. Furthermore, I hereby state that all statements are correct and complete to the best of my knowledge. A copy of this report has been given to the owner.

Falsification of any statement is a misdemeanor under Section 26-124 of the Administrative Code and is punishable by a fine or imprisonment, or both.

It is unlawful to give to a city employee, or for a city employee to accept, any benefit, monetary or otherwise, either as a gratuity for properly performing the job or in exchange for special consideration. Violation is punishable by imprisonment or fine or both.

Applicant Name Steohen L. Cohan, RA/AIA

Signature

Date 9/30/91

Seal (P.E. or R.A.)

REGISTERED ARCHITECT
STEPHEN L. COHAN
No. 11222
STATE OF NEW YORK

SEE INSTRUCTIONS ON REVERSE SIDE

Revised 9-89 Th

SLC ASSOCIATES
Stephen L. Cohan & Associates
BUILDING SYSTEM EVALUATIONS AND RELATED SERVICES
1170 Broadway, Suite 1115; New York, New York, 10001; Tel: 212-683-9404/05. Fax: 212-683-9580

SECTION II: LOCAL LAW 10/80 METHODS AND STIPULATIONS:

A. COMPLIANCE METHODS:

1. The observations were, as allowed by Right of Law, conducted visually from street level, and adjacent building roof or floor levels. They were performed with the aid of 7 x 35 mm binoculars and/or a variable range (24 - 50 mm and 70 - 400 mm) telephoto lens.

2. No attempt has been made to open up, disturb, remove, loosen or penetrate existing work, systems or appendage nor to create exploratory openings. Only that which was readily visible for "critical" observations was reviewed and commented upon.

3. These critical and visual observations, as defined by "Right of Law", have been made by one or more representatives, under a varying degree of weather conditions, time of day and reviewing methods. These observations have been performed to best represent the typical conditions which may effect the integrity of the facade and may generally not include conditions construed to be aesthetic in nature and/or relative to minor weather infiltration or watertightness.

B. COMPLIANCE STIPULATIONS:

1. The age of this building and the methods of the "critical" review work precludes any Guarantee or Warranty by the undersigned as to how long "that which appears to be serviceable or in Compliance shall remain so." The verification of any or all the described deficiencies, plus other deficiencies which may become apparent during the authorized amelioration work is construed to be totally and unequivocally the responsibility of the facade contractor.

2. The Conclusions and Recommendations, Section IV, will or have indicated that, if required, facade work may be performed at this time or in the future by a bona-fide facade contractor. However, by definition and Right of Law, this "Critical Examination" report is an objective report, as per Article A-3 of this Section, and is not to be used for the basis of a Facade Compliance Contract.

3. This objective document or report is based upon the "critical" observations of certain limited components of the building that are subject to Local Law 10/80 facade criteria. These "critical" observations are limited and restricted by sight lines and are therefore by definition cursory in nature. The observations and commentary are the

opinion of the writer and were at the time of the last stipulated site visit.

4. The Engineer/Architect is not presently retained for the preparation of the Scope of Work or Specifications, nor has the undersigned been retained for the monitoring and/or supervising during work in connection with any required referenced facade repairs. These repairs may be scheduled for performance at the appropriate time by the Owner. These services shall be contracted for between the Owner and the Engineer/Architect and shall be the subject of a separate agreement.

5. The findings are not to be considered a Warranty or Guarantee of the premises or the reported conditions, nor are they construed contingent or congruous to any insurance policy. They are based solely upon those areas of the facade and its appurtenances directly visible and observable, and reflect conditions as seen on the day of inspection and are included in this objective report as defined above. The Architect and its employees and/or consultants are indemnified for any future changes or conditions of deterioration in or on the property.

6. Since it has been stated and accepted in Article B-5 of this Section, there has been no Guarantee or Warranty expressed, implied or made in connection with this report. Any potential liability, real or unreal, which may be personal to the undersigned, or any duly appointed representatives, shall be limited to the fee for this inspection.

7. The Owner/Agent is herewith advised that with respect to any documented and uncorrected precarious hazardous or unsafe conditions, if any, that the Engineer/Architect shall, by Law, report any such uncorrected dangerous or unsafe conditions to the Commissioner in accordance with Section C27-129 of the Administrative Code of the City of New York, and shall also be held harmless against any actions, real or unreal, that may arise at this time or in the future, as a result of the non correction of the uncorrected conditions.

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SECTION III: INTENT, OBSERVATIONS & COMMENTARY

A. CRITICAL REPORT INTENT:

1. The report intent is to present the observations, opinions and recommendations of the undersigned in accordance with the limited requirements of the New York City Administrative Code's Local Law 10/80 requirements, Section C27-129.

2. The primary concern of the report is to document (if any) the unsafe, hazardous and/or potentially hazardous conditions which could effect the safety of the public. The Owner shall be made aware of these conditions and the requirement for correction.

3. The secondary concern of the report is to document (if any) the precautionary conditions, prior to their developing into serious conditions which could effect the safety of the public. The Owner shall similarly be made aware of these conditions and the requirement for correction.

4. The observations, opinions and recommendations will document for the Owner/Agent the applicable conditions subject to the Facade Compliance criteria prior to the February 21, 1997 deadline for filing.

B. CRITICAL EXAMINATION METHOD:

1. Visual; aided by 7 x 35 mm binoculars from grade (street) and/or adjacent floor, terrace and/or roof level as allowed by Law.

2. Photographs; documented with Nikon 8008 auto reflex fully automatic 35 mm camera with variable 24 - 55 mm and 70 - 450 mm telephoto with Kodak or Fotomat ASA 400 rated film.

3. Notations; visual and photographic documentation are, as by Right of Law, representative from the vantage point, restrictive and limited in nature, and therefore not all inclusive of the described or documented condition.

C. CRITICAL EXAMINATION DATES:

1. Initial Observation: March 27, 1995, consisting of one visit.

2. Concluding Observation: April 25, 1994, consisting of one visit.

3. Weather Conditions: Partly cloudy, cool, no rain, approximately 50°-55° fahrenheit.

D. EXISTING FACADE COMPLIANCE:

1. The building facades and roof appendage structure within the limits of the Law appear generally free from abnormal settlement, shrinking and cracking. Terra cotta ornamentation and/or stone units, sills, projected ornamentation and joints were apparently generally adequate, or as referenced in Item IV A.

The initial opinion of the facades being generally adequate for compliance is to be stipulated as per Section II, Article B1-B7. The very nature and age of the brick predicts that surface glazing, spalls, cracks, open areas, and even likely expanding and continuous cracks not subject to the plane of view have almost certainly occurred. In general, the mssonry and related work have been subject to continued weather atmospheric abuse, and at least some joints may have failed.

2. In essence, the applicable building facades, which have been previously (3rd Cycle) referenced as In Compliance have remained so. This includes at least but not necessarily limited to the review, lintels, corner cracks, parapet work and general masonry work. Previously referenced adequate conditions (repairs and replacements) are to be termed, as viewed by Right of Law, "In Compliance" at this time. It appears that all of the precautionary work items previously listed in the Third Cycle report have, with little exception, not deteriorated to any significant extent. The recommendation for a Compliance Contract is not to be required at this time. This is expanded upon in Section IV A and IV B of this report.

3. Compliance Architect: Not Required.

4. Compliance Contractor: Not Required.

E. PHOTOGRAPHIC OBSERVATIONS AND COMMENTARY:

1. These photographs are typical (not all inclusive) of the observed Compliance Condition of the applicable building facade and appendages.

2. The photographic description is as follows:

View S-1 Overall view of the south and west facades of the southwest corner indicating full exposure at all levels for compliance.

View N-1 Overall view of the north return facade indicating partial exposure from the 5th through roof (21st) level.

View E-1 Overall view of the east return facade indicating partial exposure from the 11th through roof (21st) level.

View W-1Overall view of the west facade indicating full exposure at all levels for compliance.

View N-2 Close up detail of the north facade indicating previous and adequate compliance work at the roof (21st) level through 15th level.

Views S2A/S2B Close up detail of the south facade indicating previous and adequate compliance work at the roof (21st) level through 18th level.

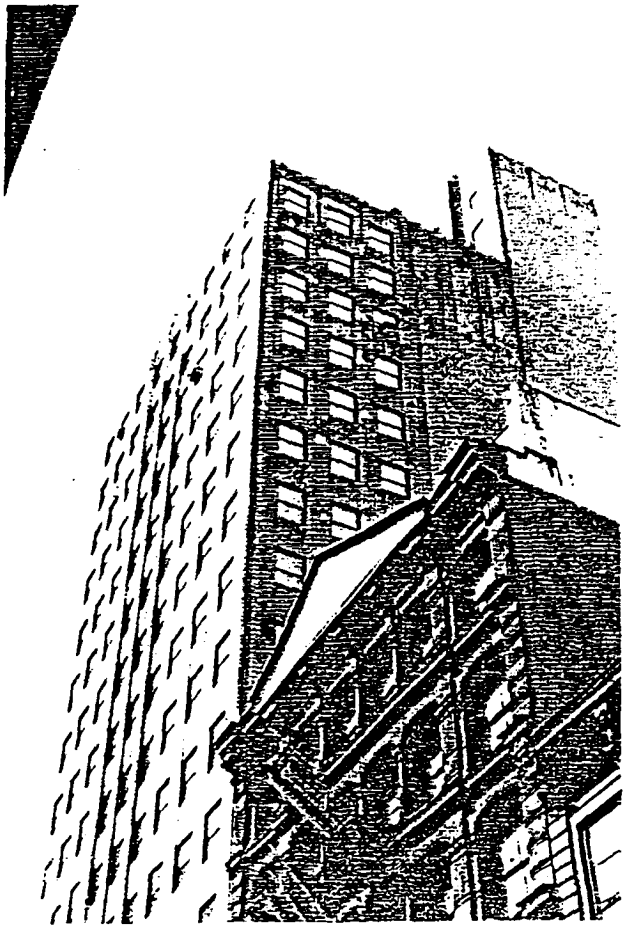
View E-2 Close up detail of the east facade previous and adequate compliance work at the roof (21st) level through 17th level.

Views W2A/W2B Close up detail of the west facade indicating previous adequate compliance work at the 8th through 12th levels.

Views W3A/W3B Close up detail of the west facade previous and adequate compliance work at the roof (21st) level through 18th level.

S-1

N-1



E-1

Local Law 10 of 1980
271 Church Street
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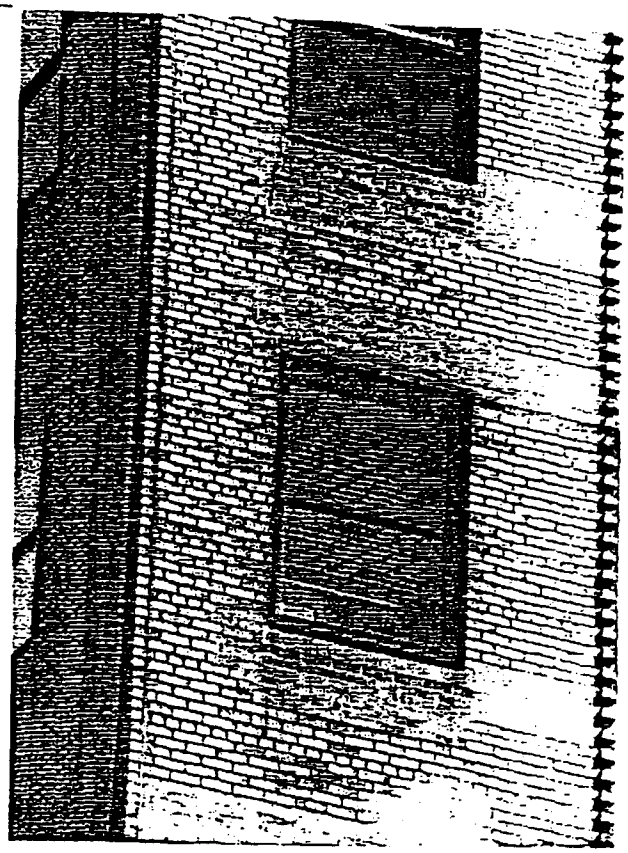
W2A

MATCH LINE

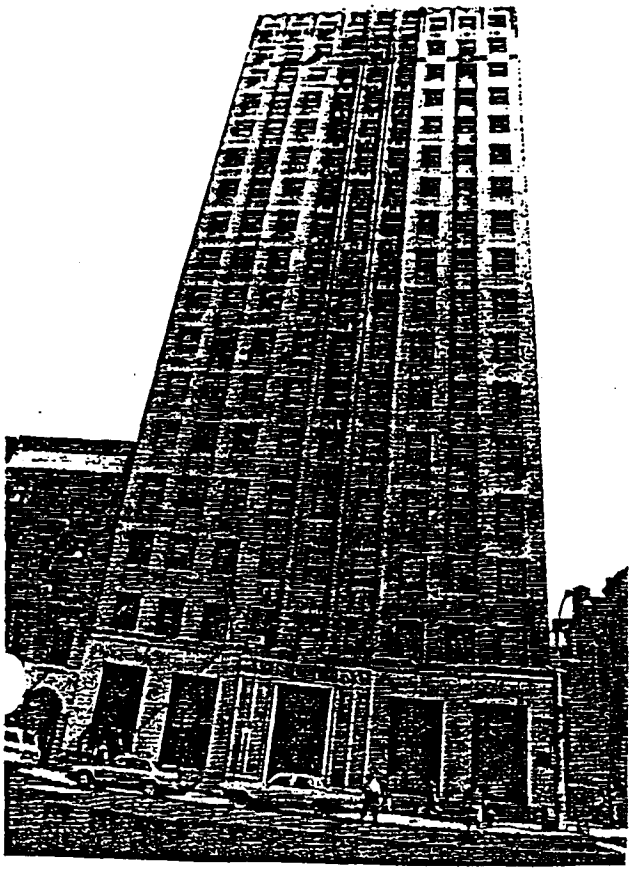


W2B

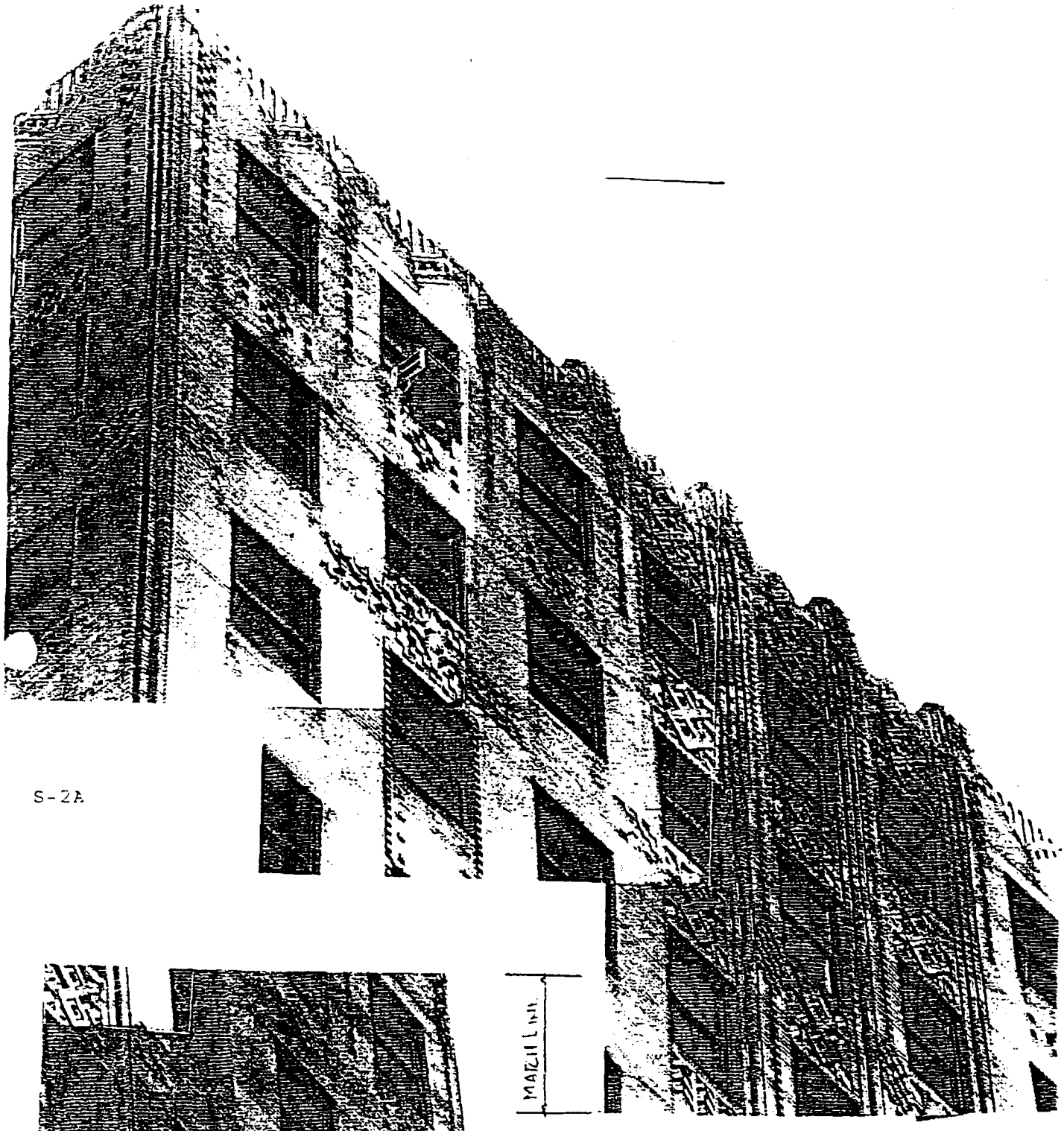
MATCH LINE

N-2

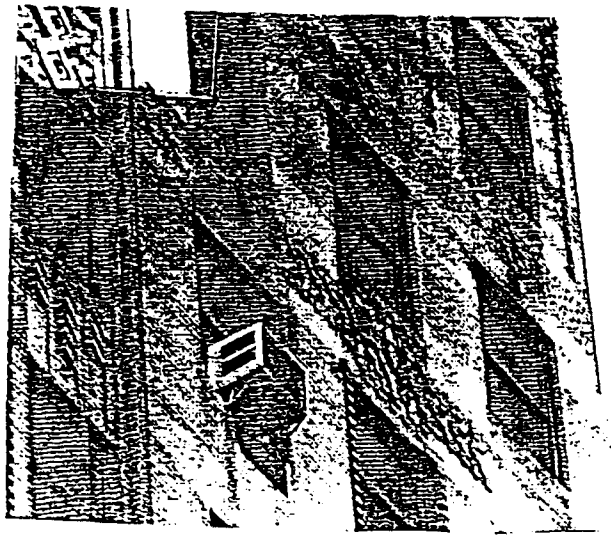
Local Law 10 of 1980
271 Church Street
Section III, p. 6



W-1

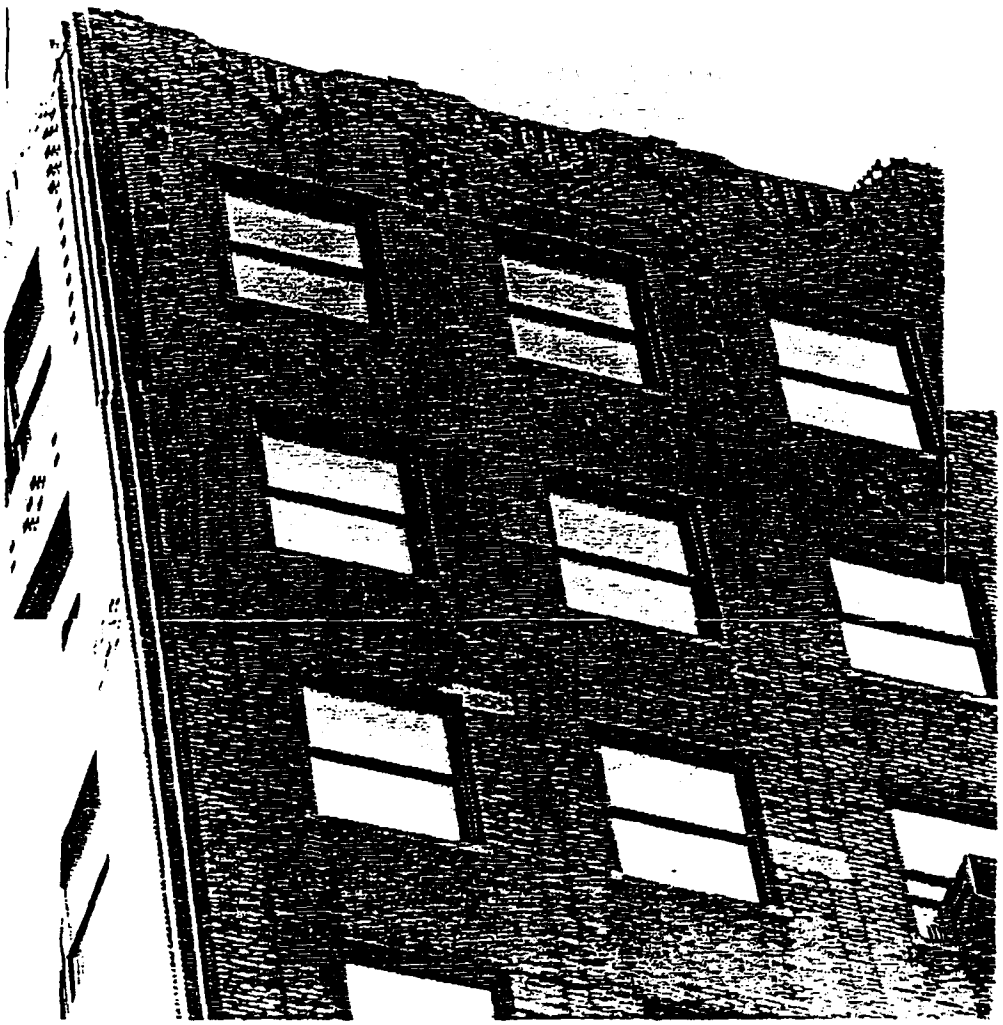


S-2A



S-2B

Local Law 10 of 1980
271 Church Street
Section III, p. 7



E-2

Local Law 10 of 1980
271 Church Street
Section III, p. 8

Local Law 10 of 1980
271 Church Street
Section III, p. 9

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SECTION IV: CONCLUSIONS AND RECOMMENDATIONS:

A. CONCLUSIONS:

1. The observations have concluded that there were neither precautionary nor any apparent unsafe, hazardous or potentially hazardous conditions which require correction. It appears that the previously documented (Third Cycle of Local Law 10/80) compliance conditions at this building have remained adequate in accord with Section C27-129 of the Administrative Code of the City of New York for proper facade compliance.

2. The concluding observations indicated that the facades had been adequate for Local Law 10 of 1980 Compliance. The review work has included at least the following:

Pointing Work:

West facade performed 3rd through 14th level; 15th through 18th level.
North facade performed 6th through 14th level; 15th through 18th level.
South facade performed 3rd through 14th level; 15th and 16th level; 17th and 18th level.
East facade performed 9th through 14th level; 15th and 16th level parapet level.

Lintel and Flashing Replacement:

West facade approximate replacement of 7 units and rehabilitation of 15 units.
North facade approximate replacement of 4 units and rehabilitation of 16 units.
South facade approximate replacement of 6 units and rehabilitation of 5 units.
East facade approximate replacement of 2 units and rehabilitation of 7 units.

Window Sills:

West facade approximate replacement of 15 units and rehabilitation of 16 units.
North facade approximate replacement of 2 units and rehabilitation of 4 units.
South facade approximate replacement of 6 units and rehabilitation of 7 units.
East facade approximate replacement of 1 unit and rehabilitation of 2 units.

In essence, these 1990-1992 repairs have placed the building facades into a compliance status. There is, based upon the intent of these repairs, no work required for compliance at this time.

3. The age and stage of the applicable building facades had required that the Owner authorize the rehabilitation work. The work has, without any notable or unexpected exceptions, remained adequate and complete to eliminate any precarious or precautionary conditions required for notation or description.

4. The observations of the applicable facades indicated that they were in general adequate condition for Facade Compliance. Evidence of typical hairline cracking, slight splits, spalls, etc., may likely be observed from close up. This is normal and should be anticipated. It should also be anticipated that where facade components were not within the site line (hidden to view) allowed by Law, that extending and continuous cracks, open joints, spalls, etc., are likely to exist. Most of these apparent observed deficiencies were termed to be hardly perceptible openings in the vicinity of not only joints and unit splices, but also at various facade areas, i.e., masonry work, lintel lines, corners, projections, etc.. These minor deficiencies were construed to be of little consequence (for LL10/80 compliance) at this time.

B. RECOMMENDATIONS:

1. The Observations (Section III) have documented conditions that have resulted in the conclusion that there are no Precautionary Conditions which should be corrected at this time. This previous correction of these deficiencies has apparently placed the applicable facade conditions back into compliance. This 1990-1992 work performance appears to have been properly documented, detailed and performed by the bona-fide facade contractor, Fiedler Construction. This contractor was apparently knowledgeable in the proper procedures for facade work.

2. It is recommended that as a matter of routine prudent building maintenance, and for continued public safety, that the Owner/Agent authorize the continuous facade review and as required amelioration thereof, of observed precautionary conditions. The facades should be reviewed as soon as possible and corrected prior to the first hard freeze or freeze/thaw cycle in the fall or spring, after the last freeze/thaw cycle. This review should include the normal and routine building observations and work performance recommended by good "building maintenance" procedures and as may be required by Law.

3. The areas above or not within the viewing plane, should

be reviewed from scaffold during the time of close up review. Also, it is recommended that while the scaffold is in place, that any maintenance and/or waterproofing work be performed. It is suggested that at the time of scaffold review, the contractor hammer test all suspicious areas (sound test) for hollow sections, defective units, deteriorated anchorage, etc.. As an added precaution, that these tests may be performed with a Boroscope, in manner similar to that defined in the New York City Landmarks Conservancy publication, "Historic Building Facades, A Manual for Inspection and Rehabilitation", dated 1986.

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SECTION V: BUILDING DEPARTMENT FILING:

With my signature and Architect's seal affixed hereto, I have determined as allowed by Right of Law, to the best of my ability, that the building located at 271 Church Street in the Borough of Manhattan has been examined as allowed by Right of Law and appears to be in compliance with the requirements of the City of New York, Department of Buildings' Building Code, Section C27-129 (Local Law 10 of 1980).

This report indicates the condition of the exterior walls and appurtenances thereto and has been conducted on behalf of the Owner of the building. The Owner had been made aware in this report and separate cover of the requirement that any ameliorative work required for Compliance shall be completed prior to the filing of this report and in accordance with the requirements of the Law. However, at this time, there does not appear to be any precautionary, potentially hazardous, hazardous or unsafe conditions requiring corrective work. Therefore, no future corrective work is required as a result of this inspection report. Upon the authorization of the Owner, this report, together with the necessary Engineering Statement, that the building as stipulated, conforms to Code requirements and applicable rules was to be filed. It will be, at this time, necessary to file this report with the form that the Building Department provides for each individual building.

The records will be kept on the premises and the Owner has been informed of the Law relating to periodic inspections.

Signed and Sealed _____ date 4/27/95

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ASBESTOS REPORT

(PLEASE SEE ATTACHED)

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LIMITED ASBESTOS INSPECTION

REPORT

at

90 FRANKLIN STREET
AKA 271 CHURCH STREET
NEW YORK, NEW YORK

for the

RAL COMPANIES
316/318 FULTON AVENUE
HEMPSTEAD, NEW YORK

Prepared by:

Enviro Techniques, Inc.
22 California Avenue
Paterson, New Jersey

March 1999

Enviro Techniques 22 California Avenue, Paterson, N.J. 07503 • (973) 684-0202 • Fax (973) 684-3007

March 19, 1999

Mr. William Baron
Corn Associates LLC
316/318 Fulton Avenue
Hempstead, New York 1550

Re: Limited Asbestos Inspection at:
90 Franklin Street AKA 271 Church Street, New York, New York

Dear Mr. William Baron:

As per your request, we have performed a limited asbestos inspection at the above referenced facility on March 17, 1999.

Enviro Techniques, Inc. is an Environmental, Industrial Hygiene Consulting Company. We are fully licensed and certified by the New York State Department of Labor under Industrial Code Rule 56 to perform asbestos consulting services.

Our company has provided asbestos and lead project management services for numerous Private, State and Municipal organizations. The projects conducted by the company include a full range of services: site assessments, bulk sample analysis, development of technical specifications, preparation of bid documents, conducting bid meetings, contractor screening and management of the total project during actual abatement.

Enclosed please find the report for the work performed.

Should you have any questions, please feel free to contact me at 973-684-0202.

Thank you.

Sincerely,

Krutarth Jagad
General Manager

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A

1.0 EXECUTIVE SUMMARY

Enviro Techniques, Inc. performed a limited asbestos inspection at the request of Corn Associates LLC on March 17, 1999. The purpose of the inspection was to identify the presence of asbestos containing fireproofing and Thermal System Insulation (TSI) materials within the building located at 90 Franklin Street AKA 271 Church Street, New York, New York.

An asbestos survey was performed by Soil Mechanics Environmental Services, on November 1998 as part of the Environmental Site Assessment. In this report, it has been mentioned that pipe/elbow insulation is positive with respect to asbestos. Therefore, during our inspection, bulk samples of these materials were not collected.

During our site visit, it was observed that asbestos containing pipe/elbow insulation exist throughout the building. Some of the pipe/elbow insulation was exposed due to the construction activities being taken place in the building. These pipes were mainly located in the horizontal and vertical soffits along the exterior walls.

Detailed location, quantity, condition and recommendations of the pipe/elbow insulation is described in the "Section C - Summary of Suspect Asbestos Containing Fireproofing and TSI" of this report. Condition of the exposed pipe/elbow insulation was assessed and found to be in good condition.

Detailed Operations & Maintenance program for the asbestos containing materials is described in Section D of this report.

We recommend that during any construction activities, if any suspect asbestos containing materials are identified, sampling and analysis should be performed to confirm the presence or absence of asbestos in the material prior to the disturbance of this material.

Appendix 2 contains a letter from New York Insulation, Inc., the asbestos contractor, describing quantities and asbestos containing materials abated in January through March 1999.

B

2.0 INSPECTION PROCEDURES

Asbestos containing materials (ACM's) can be categorized into three main uses: surfacing materials, thermal system insulation, and miscellaneous materials. Surfacing materials, which are sprayed or trowelled on, are applied to ceilings, walls, or beams. Thermal system insulation covers pipes, boilers, and tanks. Miscellaneous materials encompass other products such as ceiling and floor tiles and insulation for electrical wiring.

The inspector performed a systematic walk-through of all accessible designated areas. As stated in the Scope of Work section, an inspection was conducted of the fireproofing materials and thermal system insulation materials present in the building. In addition to the requirements for inspection under AHERA (40 CFR 763.85), inspectors investigated all interior spaces physically accessible through non-destructive means. Inspectors identified, and accessed suspected ACBM.

SUMMARY OF ASBESTOS CONTAINING TSI AND FIREPROOFING MATERIALS

90 Franklin Street - AKA 271 Church Street, New York, New York

Floor: Sixth Floor

Room #/Space ID	Material/Description	Approximate Quantity	% Damage	Type of Damage	Response Action
Main Area	Air-cell pipe/elbow insulation	215 LF	---	---	Operations & Maintenance

Floor: Seventh Floor

Room #/Space ID	Material/Description	Approximate Quantity	% Damage	Type of Damage	Response Action
Main Area	Air-cell pipe/elbow insulation	215 LF	---	---	Operations & Maintenance

Floor: Eighth Floor

Room #/Space ID	Material/Description	Approximate Quantity	% Damage	Type of Damage	Response Action
Main Area	Air-cell pipe/elbow insulation	215 LF	---	---	Operations & Maintenance

Floor: Ninth Floor

Room #/Space ID	Material/Description	Approximate Quantity	% Damage	Type of Damage	Response Action
Main Area	Air-cell pipe/elbow insulation	215 LF	---	---	Operations & Maintenance

SUMMARY OF ASBESTOS CONTAINING TSI AND FIREPROOFING MATERIALS

90 Franklin Street - AKA 271 Church Street, New York, New York

Floor: Tenth Floor

Room #/Space ID	Material/Description	Approximate Quantity	% Damage	Type of Damage	Response Action
Main Area	Air-cell pipe/elbow insulation	215 LF	—	—	Operations & Maintenance

Floor: Eleventh Floor

Room #/Space ID	Material/Description	Approximate Quantity	% Damage	Type of Damage	Response Action
Main Area	Air-cell pipe/elbow insulation	215 LF	—	—	Operations & Maintenance

Floor: Twelfth Floor

Room #/Space ID	Material/Description	Approximate Quantity	% Damage	Type of Damage	Response Action
Main Area	Air-cell pipe/elbow insulation	215 LF	—	—	Operations & Maintenance

Floor: Thirteenth Floor

Room #/Space ID	Material/Description	Approximate Quantity	% Damage	Type of Damage	Response Action
Main Area	Air-cell pipe/elbow insulation	215 LF	—	—	Operations & Maintenance

SUMMARY OF ASBESTOS CONTAINING TSI AND FIREPROOFING MATERIALS

90 Franklin Street - AKA 271 Church Street, New York, New York

Floor: Fourteenth Floor

Room #/Space ID	Material/Description	Approximate Quantity	% Damage	Type of Damage	Response Action
Main Area	Air-cell pipe/elbow insulation	215 LF	—	—	Operations & Maintenance

Floor: Fifteenth Floor

Room #/Space ID	Material/Description	Approximate Quantity	% Damage	Type of Damage	Response Action
Main Area	Air-cell pipe/elbow insulation	215 LF	—	—	Operations & Maintenance

Floor: Sixteenth Floor

Room #/Space ID	Material/Description	Approximate Quantity	% Damage	Type of Damage	Response Action
Main Area	Air-cell pipe/elbow insulation	215 LF	—	—	Operations & Maintenance

D

4.0 OPERATIONS & MAINTENANCE PROGRAM:

Following are the different kinds of response actions mentioned in this report.

1. REMOVAL
2. ENCAPSULATION
3. ENCLOSURE
4. REPAIR
5. OPERATIONS & MAINTENANCE (O&M)

Combinations of response action codes for each functional space represent the recommended actions to be performed in order to comply with minimum responses outlined under New York State and City asbestos regulations. It is the Building Owner's responsibility to ensure implementation of the appropriate response action consistent with the assessment findings. The Building Owner shall arrange to have the actions designed and completed by New York State and City accredited persons. The Building Owner shall select those response actions which protect human health and the environment, according to the least burdensome method.

If damaged or significantly damaged asbestos containing TSI is present, the Building Owner must at least clean the area surrounding the damage and repair the damage points. It is recommended that all TSI be included in an Operations and Maintenance (O&M) program. Removal of asbestos containing TSI is recommended whenever economically feasible or when renovation and/or demolition may impact on the material.

If damaged friable surfacing ACBM or damaged friable miscellaneous ACBM has been identified, the Building Owner may choose encapsulation, enclosure, removal or repair of the damaged material to best protects human health and the environment. The Building Owner may then determine the least burdensome response action based on local circumstances such as building occupancy and use patterns and economic concerns such as short and long term costs. Wherever this material has been repaired, encapsulated or enclosed, the Building Owner should implement an O&M program until the material has been removed.

If significantly damaged friable surfacing or miscellaneous ACBM is present, the Building Owner shall determine whether there is a need to isolate and/or restrict access to the functional space. The Building Owner must then encapsulate, enclose or remove as necessary to protect human health and the environment. Where material has been repaired, encapsulated or enclosed, the Building shall implement an O&M program until the material has been removed.

If any surfacing, thermal system or miscellaneous ACBM that has the potential for damage is present in the building, the Owner shall implement an O&M program. The Building Owner

should take preventative measures as part of the management plan to eliminate the likelihood that the ACBM or its protective cover shall be disturbed, damaged, deteriorated or delaminated.

If any surfacing, thermal or miscellaneous ACBM that has the potential for significant damage is present in the building, the Owner shall implement an O&M program. The Owner should take preventative measures as part of the management plan to eliminate the likelihood that the ACBM or its protective coating shall be disturbed, damaged, deteriorated or delaminated. These measures must remain in place until the material has been removed.

If the appropriate preventative measures cannot be effectively implemented, the Owner should determine whether there is a need for the functional space to be isolated and access to it restricted. The ACBM should be removed, or other acceptable abatement action taken, as soon as possible to protect human health and the environment.

Asbestos abatement actions other than small scale, short duration repairs as defined under AHERA requirements must be designed by persons accredited to design response actions. All asbestos abatement activities shall be performed according to federal, state and local regulations.

O&M REQUIREMENTS FOR CUSTODIAL/MAINTENANCE STAFF:

In case of an episode where asbestos is damaged or disturbed, personnel and/or custodial staff shall contact The Building Manager.

O&M REQUIREMENTS FOR ASBESTOS CONTRACTOR PERFORMING O&M WORK:

The asbestos contractor performing O&M work shall adhere to the following program.

An O&M program outlines the series of work practices required to maintain friable ACBM in good condition, to insure clean up of asbestos fibers previously released, and to prevent further release by minimizing and controlling damage to the ACBM. The elements of an O&M program include notification and labeling, employee training, worker protection and medical surveillance, cleaning and maintenance operations, fiber release episode management, periodic surveillance and record keeping.

The New York State asbestos regulations require appropriate training and certification for those persons employed or contracted to handle asbestos, including the supervision of such actions. The guidelines have set forth standards and procedures that shall be followed when removal, enclosure, encapsulation, repair or disruption of asbestos or asbestos containing materials has occurred.

4.1 DEFINITIONS

Accessible - When referring to ACM, the material is subject to disturbance by building occupants or custodial or maintenance personnel in the course of their normal activities.

Asbestos Containing Material (ACM) - In reference to school buildings, any material containing more than one percent asbestos.

Asbestos Containing Building Material (ACBM) - Surfacing ACM, thermal insulation or miscellaneous ACM found in or on interior structural members or other parts of a building.

Asbestos Debris - Fragments of ACBM that can be identified by color, texture or composition. This may include dust if confirmed by an accredited inspector.

Fiber Release Episode - Any uncontrolled or unintentional disturbance of ACBM resulting in visible emissions.

Friable - Material that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. This includes previously nonfriable material that after becoming damaged to the extent that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

High Efficiency Particulate Absolute (HEPA) - Refers to a mechanical filtration system capable of trapping and retaining at least 99.97% of all nondispersed particles 0.3 microns in equivalent diameter or larger.

Operations and Maintenance Program - A program of work practices to maintain ACBM in good condition, to insure clean up of asbestos fibers previously released, and to further prevent fiber release by minimizing and controlling damage to ACBM.

Repair - Returning damaged ACBM to an undamaged condition or to an intact state so as to prevent fiber release.

Response Action - A method, i.e. removal, encapsulation, enclosure repair, along with an O&M program that protects human health and the environment from the release of asbestos fibers.

Routine Maintenance - An area, such as a boiler room or mechanical room, that is not normally frequented by students and in which maintenance employees or contract workers regularly conduct maintenance activities.

4.2 WORKER PROTECTION

A. PROTECTIVE CLOTHING AND DECONTAMINATION PROCEDURES

The employees who clean up, repair or otherwise disturb ACBM are required to wear protective clothing and respirators. The protective clothing shall consist of full body disposable coveralls (Tyvek or equivalent). The worker shall remove all street clothes, undergarments, jewelry, watches, etc. before putting on protective clothing. A respirator shall be put on under the hood or head covering and will be the last item removed during decontamination.

Upon completion of the work, workers shall HEPA vacuum and wet wipe the outside of the protective clothing, including the respirator. The protective coveralls shall be removed and placed in 6 mil plastic bags and discarded as asbestos waste. The worker shall shower after removing protective clothing. Workers shall not remove the respirator until they are in the shower and have thoroughly wet their hair and body and washed the exterior of the respirator. Respirator cartridges shall be removed and disposed of as asbestos waste. Protective boots or shoes shall be HEPA vacuumed and wet wiped during decontamination and stored in a 6 mil polyethylene disposable bag and used only for asbestos work. A shower filtration system to filter asbestos fibers from the water shall be used and shall conform with all applicable regulations. Portable shower units are readily available, inexpensive and easy to install and transport.

If showering facilities are not available and if allowable by federal, state and local regulations, the workers shall proceed to remove all street clothing, as described above, and wear two sets of protective clothing. Gloves shall be worn in addition to the respirator. The workers shall duct tape all openings or potential openings to keep out asbestos fibers. Upon completion of the work, workers shall HEPA vacuum and wet wipe the outer layer of coveralls, including the respirator. Upon removal, the outer layer of protective coveralls shall be placed in 6 mil plastic bags and discarded as asbestos waste. With the respirator still on and wearing the second layer, the worker shall proceed to the nearest shower. The workers shall then remove the coveralls and take a complete shower or wash the outside of the respirator, hands, face and arms. The coveralls and respirator cartridges shall be disposed of as asbestos waste. The workers may then re-dress in street clothing.

B. MEDICAL MONITORING PROGRAM

Medical monitoring has been specified where ACM exposure is likely to exceed the OSHA Permissible Exposure Level of 0.1 fibers per cubic centimeter of air (f/cc) calculated as an 8 hour Time Weighted Average (TWA) during the course of work. The program must be provided at the cost of the Building Owner and consist of the following elements:

i. Preplacement Examination

To be provided within 30 days of employment and shall include medical history, chest x-ray, and pulmonary function test (PFT).

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Respirators should be inspected before and after each use. Specific items to check during these inspections will depend on the type and manufacturer of the respirator (see owners instruction booklet for proper procedures). Examples of what to inspect include checking the silicone rubber face pieces, straps, flexible hose, intake and exhaust valves, etc.

Each respirator should be cleaned and sanitized after each use. A mild disinfectant soap and water may be used or any other type of product designed for respirator cleaning. After cleaning the respirator should be hung and allowed to air dry before being used again. Respirators should not be stored in a manner that will disfigure or damage the unit. Storage of the unit near corrosive chemicals or strong sunlight will accelerate the deterioration of the face piece.

Each worker who wears a respirator shall be fit tested to ensure a tight seal where the face comes in contact with the mask. Workers who have beards or excessive facial hair will not be able to carry out asbestos related work. One example of a fit test is the qualitative check of the respirator to face seal using a chemical smoke irritant, saccharin or banana oil every six months for each brand and size respirator an employee shall wear. This testing should be carried out by a qualified health/safety professional.

4.4 WORKER TRAINING

The employer must provide awareness training of at least two hours to maintenance engineers and custodial workers who are employed and work in buildings that contain ACBM. This awareness training is required whether or not these individuals work with ACBM. New employees shall be trained within 60 days after they begin work. The training shall include, at a minimum, information about asbestos and its different uses and forms, background concerning health effects associated with asbestos exposure, the locations of ACBM as identified throughout the building, the recognition of damage, deterioration and delamination which is related to exposure potentials, and the name and phone number of the Building Engineer.

The Owner is also required to provide in depth training to those employees who conduct any activity which will result in the disturbance of ACBM. The training shall include the previously described two hour awareness as well as 14 additional hours. The additional 14 hours shall include, at minimum, descriptions in the proper methods of handling ACBM; proper use of protective equipment such as respirators, disposable clothing, HEPA vacuums, etc.; complete description of the requirements of AHERA and other federal, state and local regulations; and hands-on training in the use of personal, protective equipment and work procedures.

All forms of training provided shall emphasize the necessity to not disturb ACBM during routine maintenance activities. Employees shall be instructed at a minimum to follow these standards:

i. Avoid performing any activities on ACM that may cause abrasion or physical deterioration of the material. This includes sanding, nailing, drilling, cutting or otherwise damaging the material.

ii. Avoid damaging the ACM during maintenance activities NOT directly involving the ACM such as installing drapes, carpets, moving furniture, etc.

iii. Always use a HEPA vacuum and the wet method to clean asbestos dust or debris. NEVER USE A REGULAR VACUUM OR DRY METHOD.

iv. Avoid any activity that may inadvertently release asbestos fibers into the air such as removing contaminated or potentially contaminated ventilation filters, drying and/or shaking the filters, or removing suspended ceiling tiles below ACM without taking the proper precautions and using the proper personal protective equipment.

4.5 PERSONAL AND AREA AIR MONITORING

OSHA has established and EPA has adopted a Permissible Exposure Limit (PEL) of 0.1 f/cc over an 8 hour time weighted average (TWA) for asbestos exposure. As previously stated, once this level is met or exceeded, a number of required work practices must be implemented, including air monitoring, regulated work areas, engineering and work practice controls, respiratory protection, protective clothing, hygiene facilities and practices, training, medical surveillance and record keeping.

As a means for compliance to those regulations, 8 hour TWA air sampling shall be conducted during any small-scale, short duration maintenance activities involving ACM. It is recommended that air monitoring be performed as follows:

i. Personal samples should be collected at the breathing zone of employee(s) performing a particular asbestos related activity.

ii. It is also recommended that area samples be collected in the vicinity of the maintenance activity to determine the expected level of air contamination in the surrounding areas as a result of the activity.

All air monitoring will be done in accordance with OSHA (29 CFR 1910.1001 and 1926.1101) and EPA's 40 CFR 763.121. Sample collection and analysis shall be conducted according to NIOSH methodology. The samples will be taken to determine the 8 hour time weighted average concentrations and ceiling concentrations of asbestos fibers.

Results of all analysis will be posted in the buildings maintenance office and in the office of the Building Manager. The air analysis report shall be included in the building's management plan as part of the permanent record.

In addition to the above, it should be noted that in response to a US Court of Appeals order, OSHA issued a short term permissible exposure limit designed to protect workers from "bursts" of exposure to asbestos. The limit, referred to as the Excursion Limit (EL), was announced on

September 14, 1988 (53 FR 35610) and went into effect on October 14, 1988. This limit amended OSHA's asbestos regulations for general industry and construction industry. The EL limits the exposure of unprotected workers to one fiber per cubic centimeter (f/cc) averaged over a period of 30 minutes. It is advisable that a copy of this ruling be obtained and added to the permanent record.

4.6 CLEANING PROCEDURES

Cleaning procedures described herein describe semiannual cleaning required under AHERA in any area where damaged ACM and/or asbestos containing debris has been identified. All cleaning must conform with requirements set forth in New York State and New York City Asbestos Regulations.

A. SURFACING MATERIALS

ACM that has been sprayed or trowelled onto ceilings and walls are often the main source of airborne asbestos fibers in a building. Areas covered by surfacing ACM tend to be large and, if the material is friable, fibers are gradually released as it ages. Spray any debris found near surfacing ACM with amended water and place the debris in 6 mil polyethylene bags using a wet cloth and pan. Rinse the pan into the bag. Report the presence of debris immediately to the Building Engineer. HEPA vacuum all carpets; no normal vacuums are allowed. Dispose of all debris, filters, mop heads, and cloths in 6 mil polyethylene bags according to EPA regulations for disposal of asbestos waste.

B. THERMAL SYSTEM INSULATION

Cleaning procedures shall be performed in an expedient manner and thereafter on a semiannual basis for all areas where damaged thermal ACM has been located within the building. Once this damage has been abated, the asbestos coordinator shall ensure that the material remains intact. If further deterioration or delamination exists, the findings can be documented during the periodic surveillance and the appropriate response actions shall then be implemented.

C. MISCELLANEOUS MATERIALS

Miscellaneous ACM such as floor tiles, transite board and asbestos containing cement are nonfriable forms of asbestos. The potential for fiber release episodes are therefore relatively low. Because of their low friability, a cleaning program is not suggested for these materials unless they have been damaged. For all other miscellaneous materials the cleaning procedures of surfacing materials should be followed.

4.7 OPERATIONS, MAINTENANCE AND REPAIR PROCEDURES

Maintenance and Repair activities include: a) removal of small quantities of ACBM only required in the performance of other maintenance and not intended as asbestos abatement; b) removal of thermal insulation in amounts not greater than that which can be contained in a single glove bag; and c) minor patching and repair to surfacing or thermal insulation which does not include removal. New York State Industrial Code Rule 56 and New York City Title 15 clearly define asbestos related activities, how they to be performed, and the worker qualifications required to perform them. The requirements under this regulation represent the most stringent applicable regulations. Therefore this regulation shall be adhered to strictly during applicable operations.

A. ROUTINE MAINTENANCE

All maintenance and renovation activities must be approved by the Building Owner to ensure that ACBM is not inadvertently disturbed. This includes work that is performed by in-house personnel, such as maintenance of mechanical systems, as well as by outside vendors, such as telephone, computer or HVAC contractors. All outside contractors/short-term workers who may come in contact with ACM must check the Building Engineer for information regarding the locations of known, suspected & assumed ACBM.

Routine activities which directly impact ACBM are prohibited. These include hanging, taping or tacking objects from ceiling acoustical plaster; storing tools and materials near or against thermal insulation; and sanding or drilling asbestos floor tiles.

Routine activities which may disturb ACBM must be strictly controlled to prevent fiber release Changing light bulbs in an acoustical plaster ceiling, working on equipment near surfacing or thermal insulation, or replacing floor tiles should be done during off hours by trained staff with appropriate equipment.

All maintenance activities which will disturb ACBM, such as replacing insulation valves or cleaning out insulated flue or boiler equipment, must be performed under the procedures described in federal, state and local regulations. **DRY SWEEPING ACBM DEBRIS IS STRICTLY PROHIBITED.**

B. EMERGENCY EVENTS

Minor Fiber Release Episode

The USEPA defines a minor fiber release episode as visible emissions or debris from disturbed or damaged ACM which dislodges less than three square feet of surfacing ACM or three linear feet of thermal insulation. When a minor fiber release episode occurs, the Building Engineer shall direct work as follows:

1. Restrict access and isolate area during the cleaning process.

2. Apply amended water to the debris, mist air in the area and remove and dispose of the ACM according to federal, state and local regulations.

3. Wet wipe and HEPA vacuum all surfaces potentially contaminated with asbestos fibers.

4. Remove, repair, encapsulate or enclose the ACM fiber release source as per federal, state and local regulations.

5. Dispose of all asbestos waste according to EPA and other applicable regulations.

6. Document the fiber release episode as part of the management plan.

Major Fiber Release Episode

The USEPA defines a major fiber release episode as visible emissions or debris from disturbed or damaged ACM which dislodges greater than three square feet of surfacing ACM or three linear feet of thermal ACM. When a major fiber release episode occurs, the asbestos coordinator shall:

1. Restrict and isolate the affected areas and post warning signs.

2. Use trained and protected workers to lock out HVAC systems to the area.

3. Notify the appropriate regulatory agency as required under NESHAPS.

4. Execute appropriate response actions with accredited abatement designers and contractors.

5. Document the fiber release episode as part of the management plan.

C. REPAIR PROCEDURES

Repair Procedures for Surfacing ACM

All personnel who disturb ACBM must be provided with the proper protective equipment. This shall include, but is not limited to, disposable protective overalls, HEPA vacuums, respirators, high quality duct tape, 6 mil fire retardant polyethylene sheeting, glovebags, spray adhesive, "DANGER ASBESTOS" signs, surfactants, encapsulants, asbestos repair materials, and other appropriate tools.

To repair damaged surfacing materials follow these procedures:

1. Repair work must be performed by qualified, trained individuals according to all fede.., state and local regulations.

2. Personal protective equipment and respiratory protection must be worn as per all applicable regulations.

3. "Caution hazard" signs shall be posted at all work entrances and along perimeter of the work site. If necessary, rope off the area with barrier tape.

4. All vents, lighting fixtures, desks and equipment in the proximity of the work area shall be covered with 6 mil fire retardant polyethylene sheeting.

5. Lock out all ventilation heating and cooling systems to avoid fiber release to areas of the building which are unaffected.

6. Mist air at the location where the repair will be performed.

7. Pick up and dispose of any debris found on surfaces.

8. Wet wipe and HEPA vacuum all horizontal and vertical surfaces potentially contaminated with asbestos fibers. Take down two layers of 6 mil polyethylene sheeting on horizontal and vertical surfaces in the area.

9. After all affected surfaces are free from asbestos debris, lay down two (2) layers of 6 mil fire retardant polyethylene sheeting on horizontal and vertical surfaces in the area.

10. Gently mist the damaged material with amended water and carefully remove loose pieces of ACM.

11. If necessary fill the damaged areas with a non-asbestos containing plaster or other patch material that will adhere to both the substrate and the adjoining ACM.

12. Encapsulate using a low pressure sprayer.

13. When the repair is complete, remove polyethylene sheeting and dispose of as asbestos contaminated waste.

14. Reclean the area using wet wiping and HEPA vacuuming techniques.

15. Dispose of cloths, respirator filter cartridges, coveralls, etc. as asbestos contaminated waste.

16. Record activities as part of the management plan and repeat periodic surveillance and cleaning as part of the on going O&M program.

Patch and Repair Techniques for Thermal System Insulation

The following procedures shall be executed:

1. Repair work shall be performed by individuals qualified and trained according to federal, state and local regulations.

2. Personal protective equipment and respiratory protection must be worn as per all applicable regulations.

3. "Caution hazard" signs shall be posted at all work entrances and along perimeter of the work site. If necessary, rope off the area with barrier tape.

4. All vents, lighting fixtures, desks and equipment in the proximity of the work area shall be covered with 6 mil fire retardant polyethylene sheeting.

5. Lock out all ventilation heating and cooling systems to avoid fiber release to areas of the building which are unaffected.

6. Wet wipe and HEPA vacuum all surfaces in the area potentially contaminated with asbestos fibers.

7. Horizontal and vertical surfaces in the vicinity shall be covered with two layers of 6 mil fire retardant polyethylene sheeting.

8. Gently mist the damaged area with amended water.

9. Remove all loose and damaged debris.

10. HEPA vacuum the substrate and surface area.

11. Repair surfaces with an appropriate patching material.

12. Encapsulate the repaired area with an approved encapsulant.

13. Apply fiberglass cloth to wet encapsulant by wrapping around the surface, covering twice with overlapping seams. Smooth out all areas of cloth.

14. Re-encapsulate fiberglass cloth. Use thick, even coats.

15. Wet wipe or HEPA vacuum affected areas.

16. Double bag and dispose of asbestos waste and all debris contaminated plastic, cloth respirator filter cartridges and disposable clothing.

17. Record all abatement/patch and repair activities as part of the management plan.

D. MINOR THERMAL INSULATION REMOVAL BY GLOVEBAG METHODS

The glovebag method is for removal of damaged insulation on pipes and pipe fittings. A minimum of two people is required to perform a glovebag removal. Repair work shall be performed by qualified individuals, trained according to all federal, state and local regulations. Personal protective equipment and respiratory protection must be worn as per all applicable regulations.

1. This method shall be optional only in areas not scheduled for gross removal operations.

2. Glovebags may only be used on piping and after approval from the asbestos coordinator.

3. The workers shall be required to protect equipment by cleaning and wrapping it with polyethylene sheeting, tape and/or adhesive.

4. Workers shall clean and protect as necessary all floors and walls within the work area with 6 mil fire retardant polyethylene sheeting, tape and/or adhesives. As a minimum, extend polyethylene one foot horizontally in all directions for each foot of vertical height from th floor to the material.

5. If fiber levels found on personal samples during glovebag removal exceed 0.01 f/cc and methods to reduce the levels prove futile, the workers shall remove the insulation according to more stringent requirements such as New York State and City asbestos regulations.

6. Using approved glovebags in strict accordance with applicable regulations and the manufacturer's instructions, workers in full protective body clothing and appropriate respirators shall begin removal of pipe insulation as per the following minimum procedures. In case of conflict the more stringent provisions of the applicable regulations shall apply.

7. Cut the sides of the glovebag to fit the size of the pipe to be worked on and insert the needed tools into the attached pocket.

8. Seal the glovebag by folding the open edges, then staple and tape. Provide any additional precautions necessary to support the weight of the debris.

9. Tightly seal the edges of the glovebag around the working area with tape. Slice open the side port to allow entry of the wetting tube and HEPA vacuum hose. Insert the nozzle from the portable sprayer. Seal around with tape and thoroughly wet the area to be removed. Insert the vacuum hose and seal accordingly.

10. Before removal work procedures the glovebag must pass a smoke test as follows:

i. Aspirate the contents of a smoke tube through the water port access of the bag.
ii. After twist sealing the access port the bag shall be squeezed gently and checked for any leakage points so they can be taped air tight.
iii. Replace the spray nozzle in the bag and seal with tape.

11. Upon approval of the glovebag attachment, insert arms into the armholes and gloves and wet the material to be removed. Proceed to remove the elbow, valve fitting or pipe. At locations where insulation rests directly on pipe hangers or supports, the worker shall resupport the pipe by shimming with wood blocks or other suitable materials. Continue wetting the material as required. Once all insulation materials have been removed, thoroughly wet the pipe and remaining insulation and wash down the inside of the glovebag.

12. Scrub or brush any visible, remaining insulation material from the pipe or fitting. Rinse and wet pipe again. Seal the exposed insulation edges with the proper encapsulant. When the job is complete remove the spray nozzle and turn on the HEPA vacuum to remove air from the bag.

13. When the air is removed from the bag, squeeze the bag tightly as close to the top as possible. Twist and tape to keep the asbestos material safely at the bottom of the bag. Turn off the HEPA vacuum. Remove the hose from the side port and seal the side port with tape.

14. Place a 6 mil plastic bag around the glovebag. Cut and remove the glovebag from the pipe. Twist and seal. Place it into another plastic bag and seal. Move bags to holding area or the disposal storage area.

15. Mist surface of protective polyethylene and carefully fold inward. Proceed to HEPA vacuum the work area for any residual materials. Reseal the exposed edges and piping with the proper encapsulant if needed.

16. The testing shall be in accordance to AHERA and other federal, state and local regulations.

17. Reestablish objects moved to temporary locations in the course of work to their proper positions.